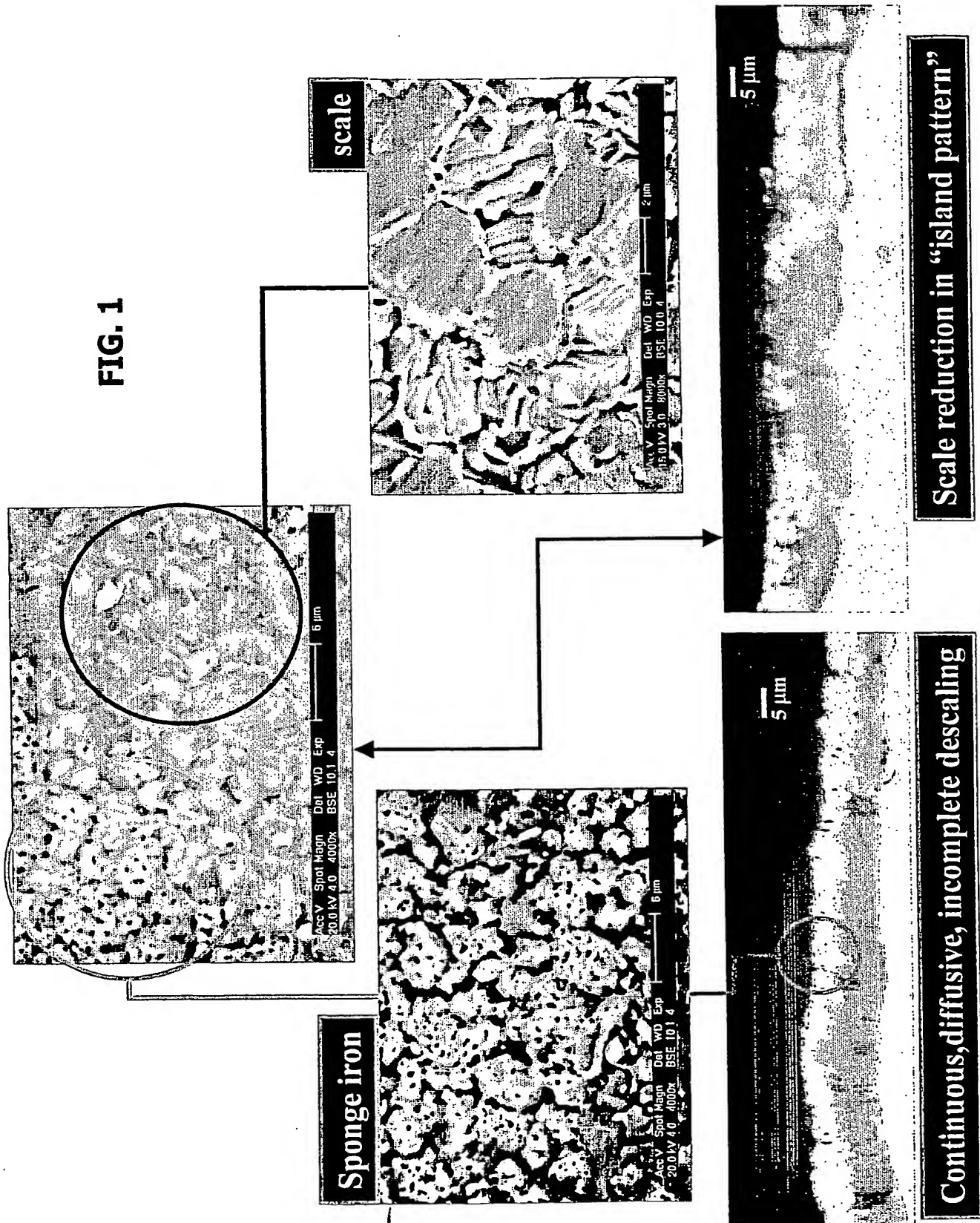
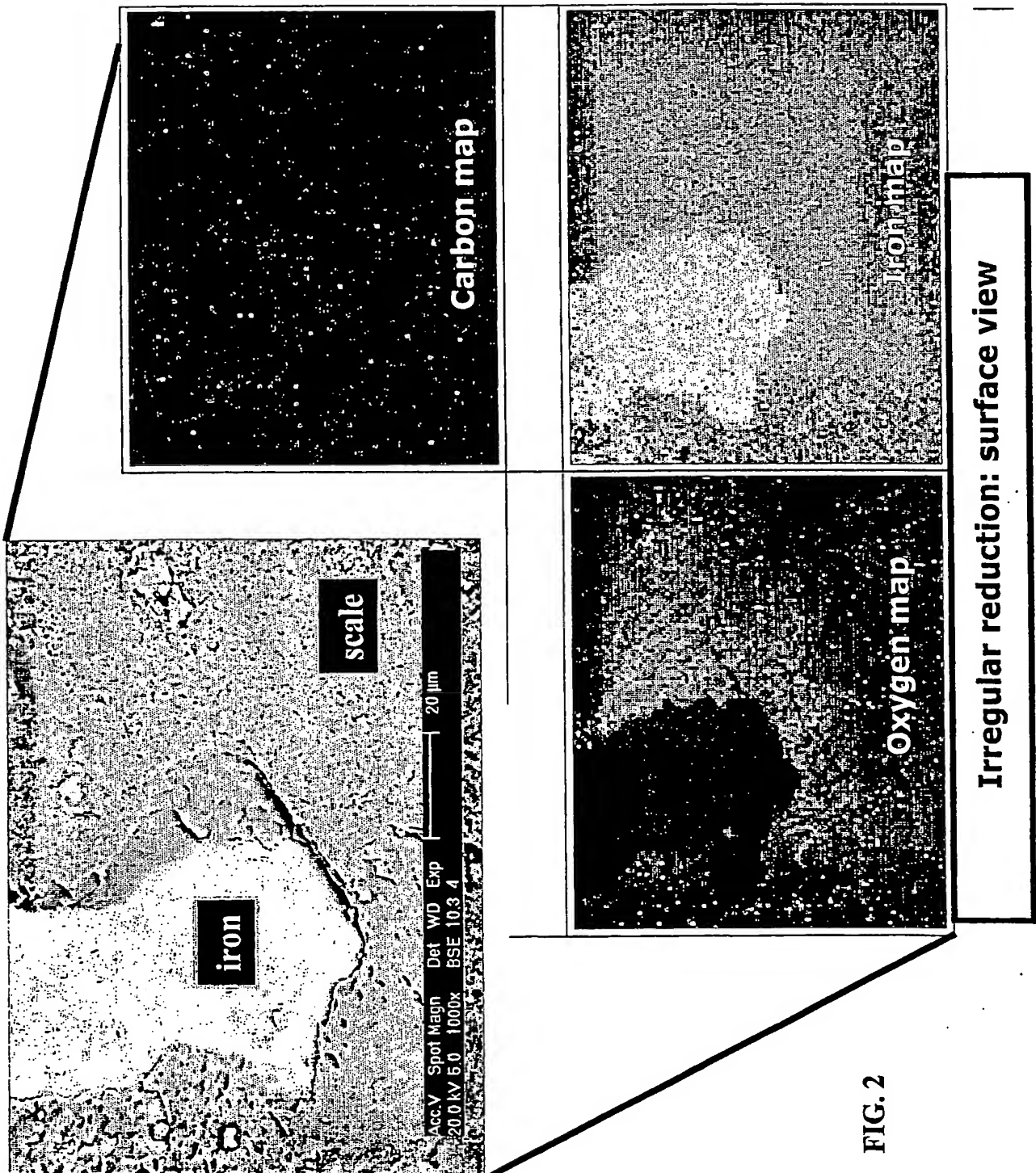
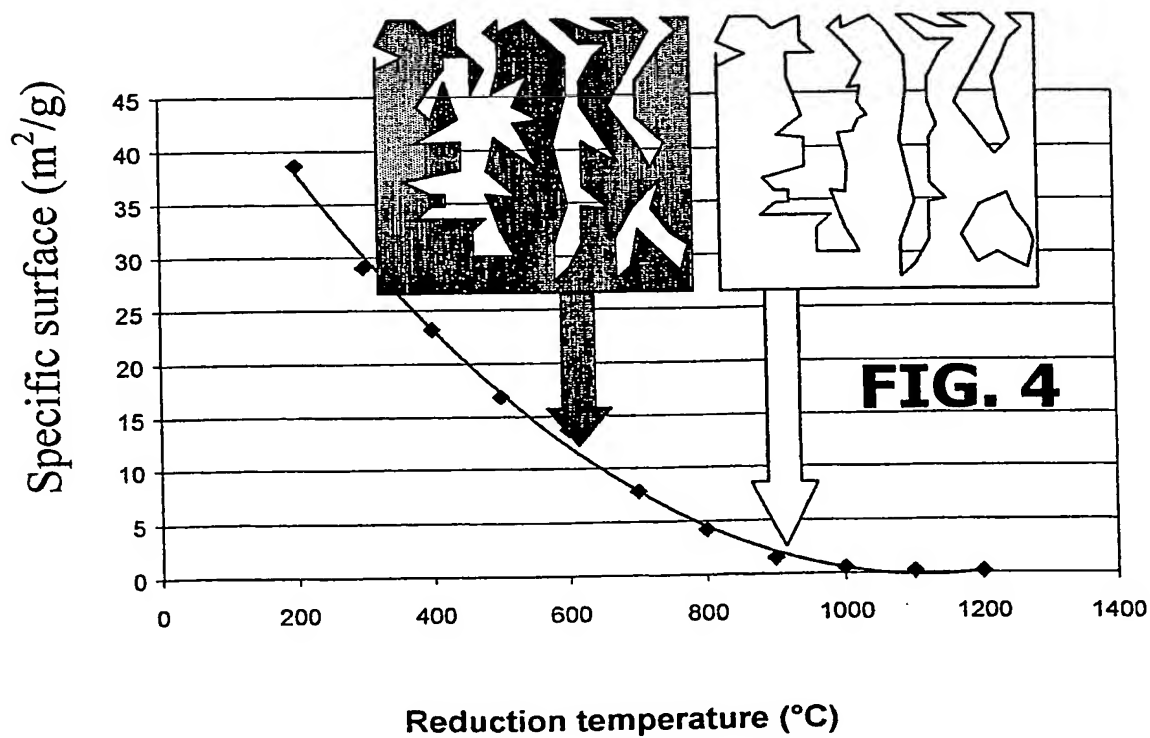
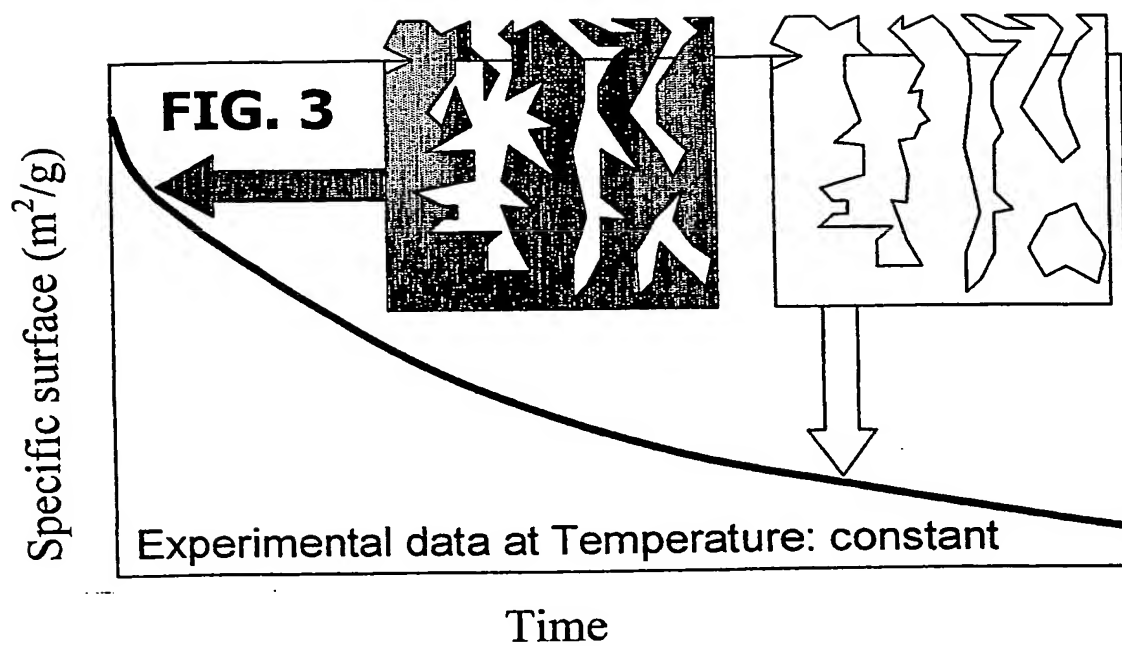


**FIG. 1**





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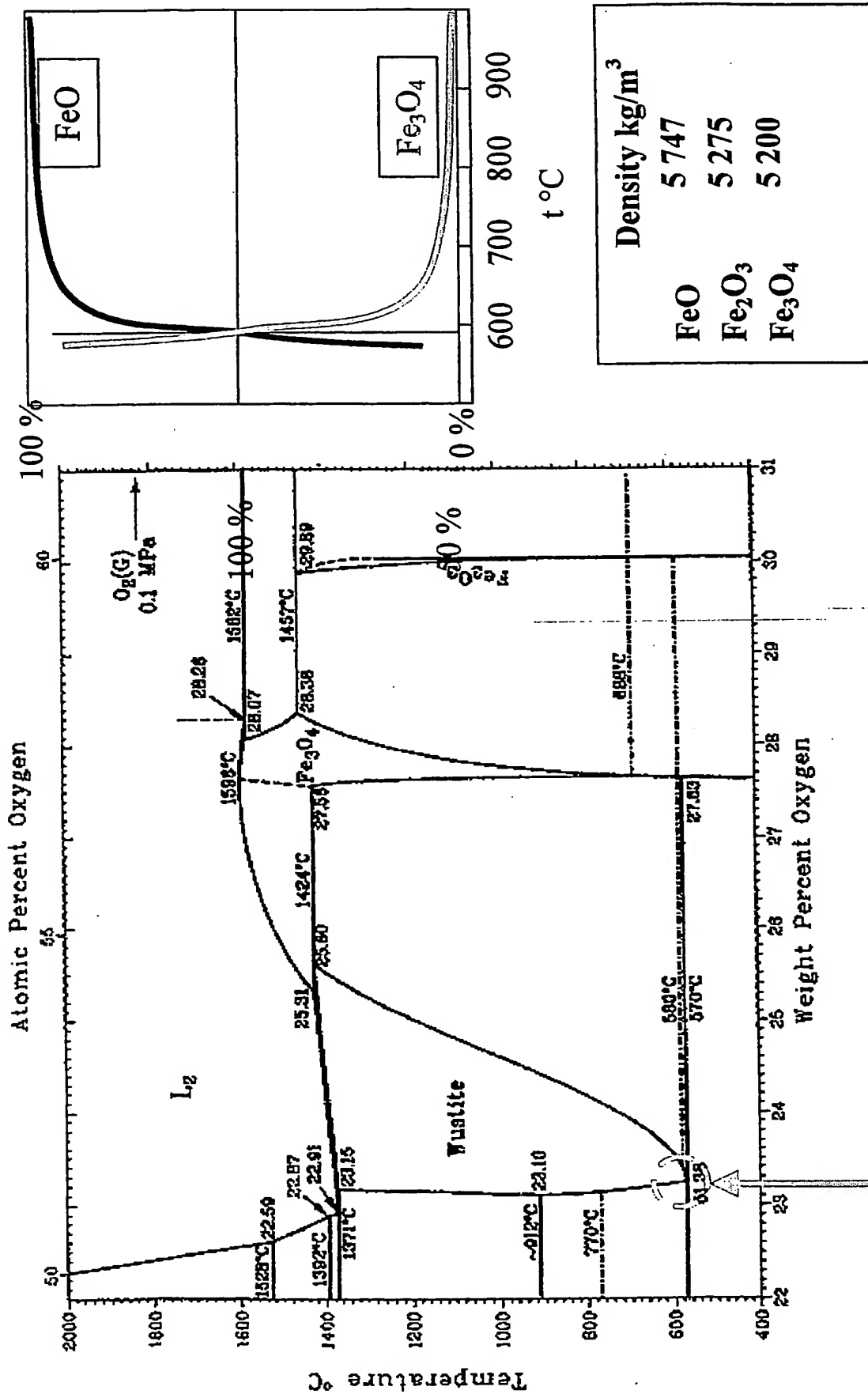
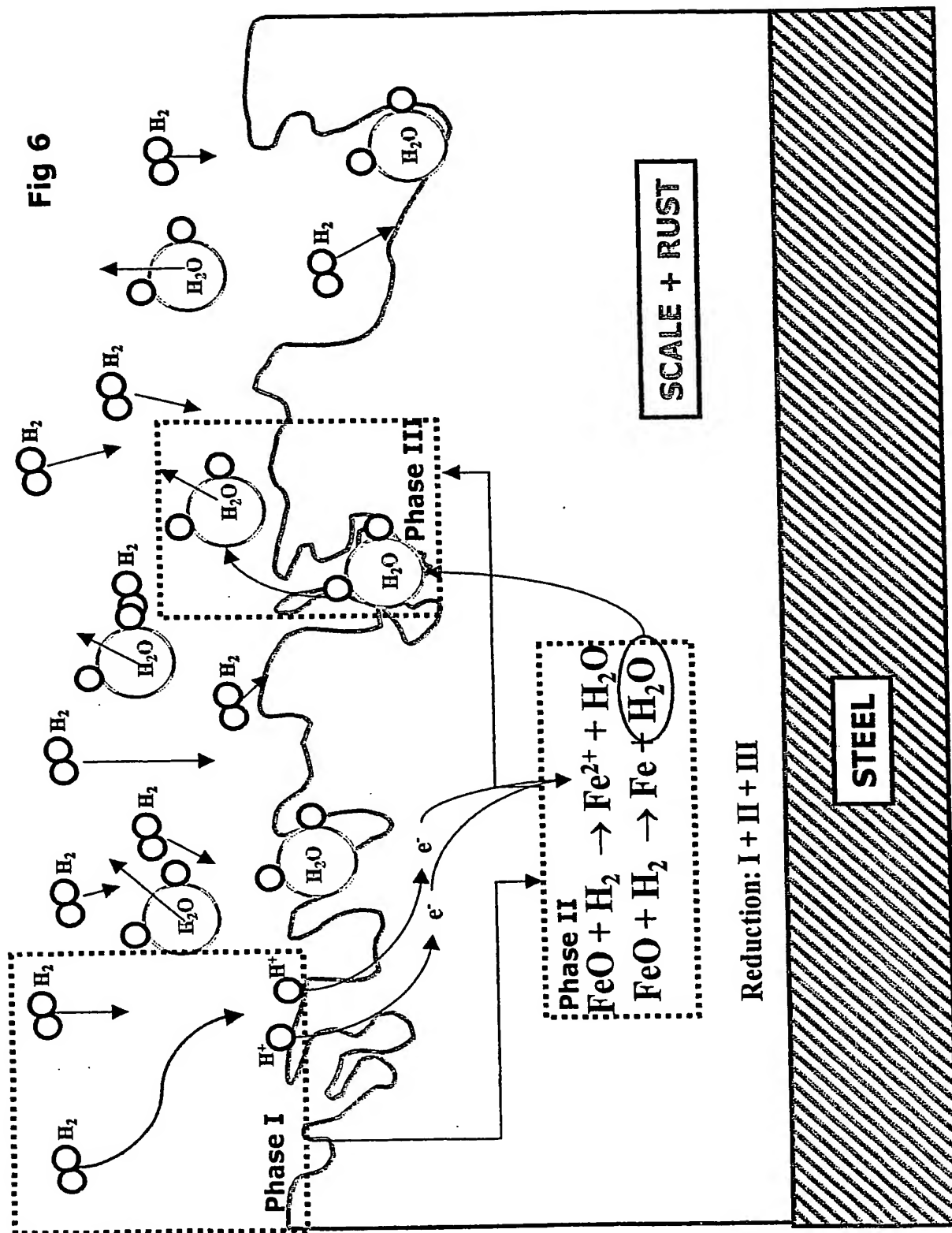


Fig 6



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Fig 7

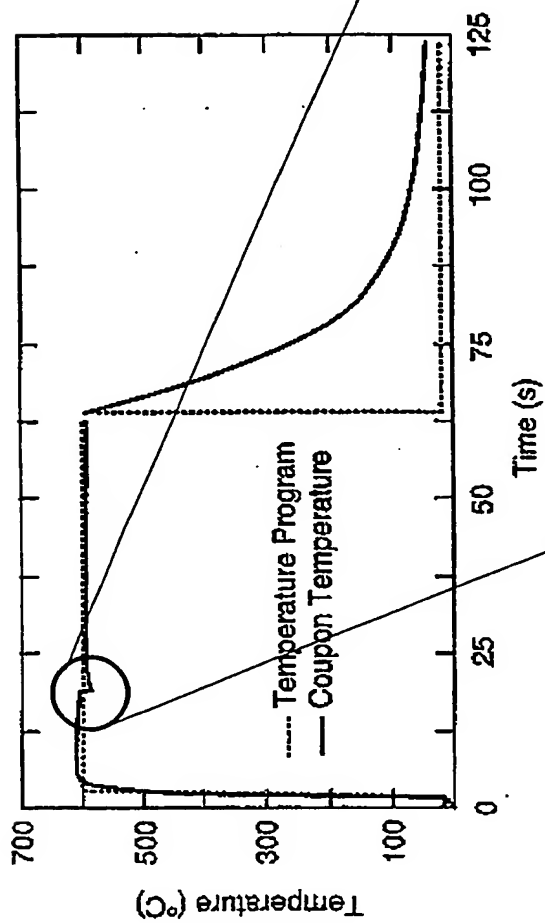
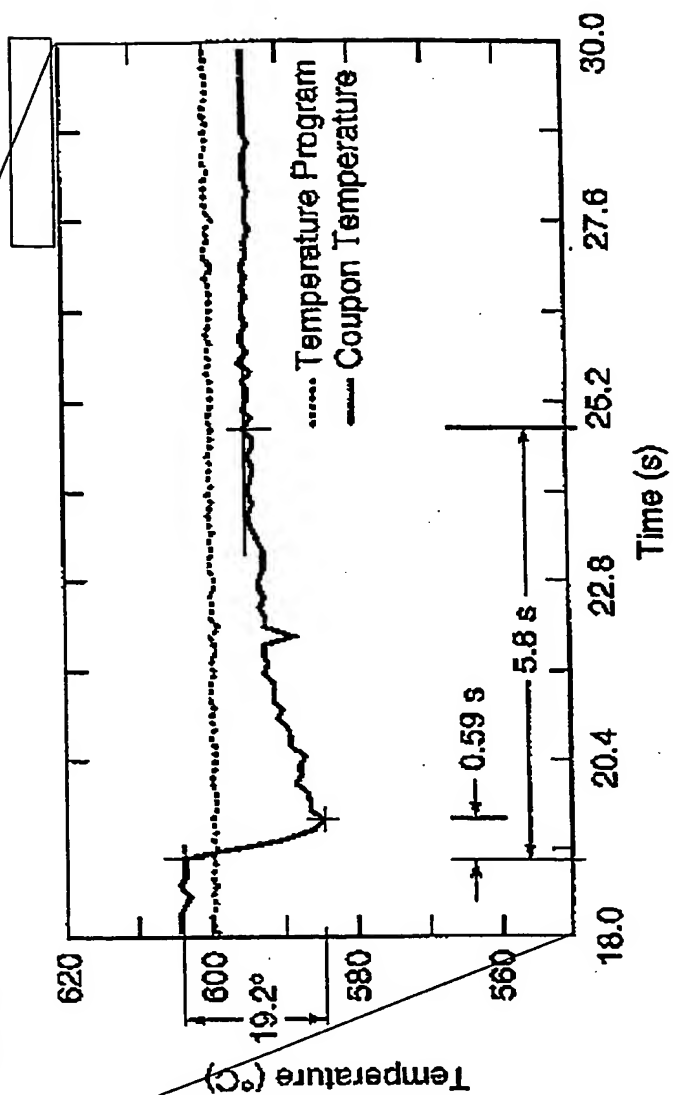
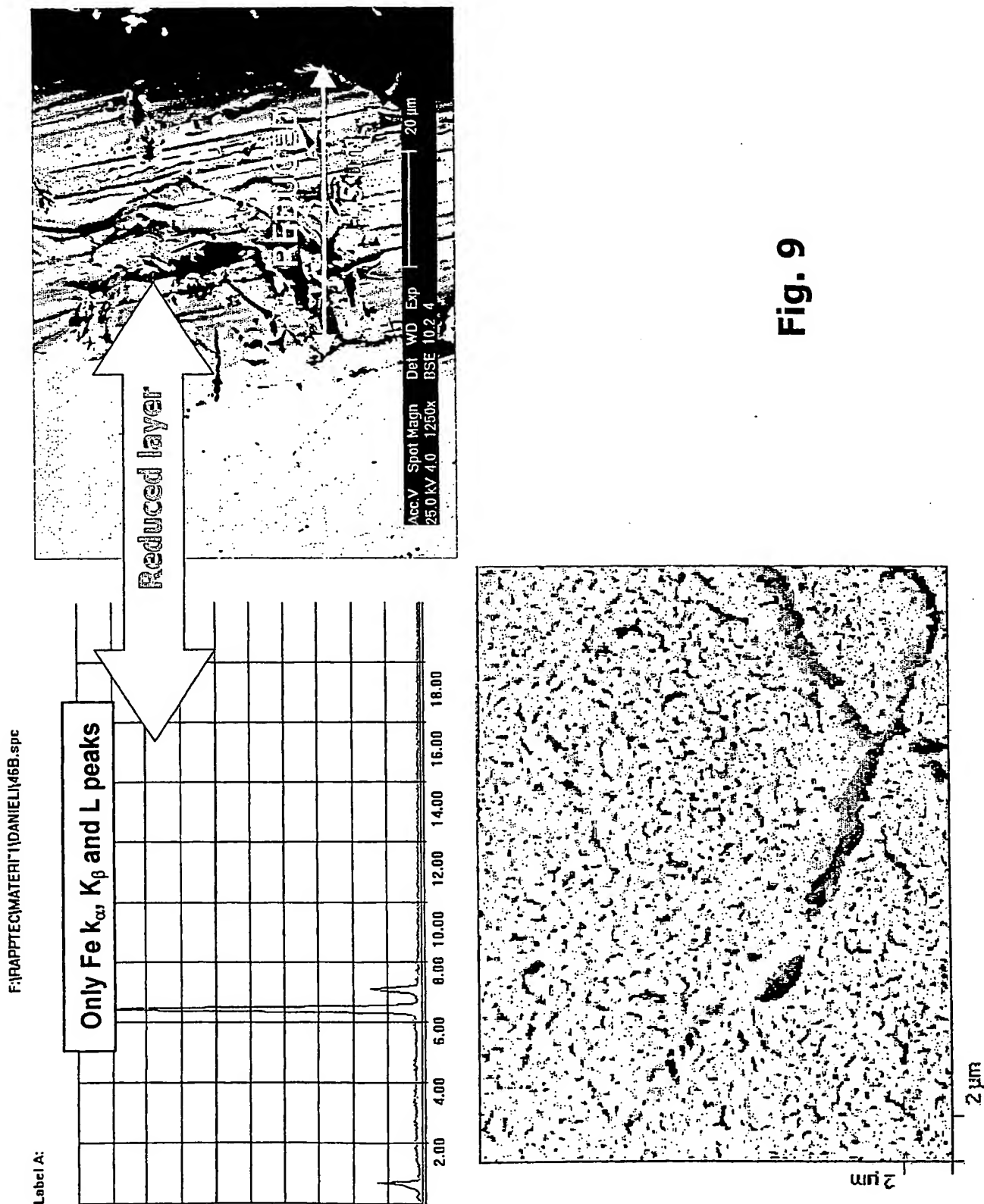


Fig 8







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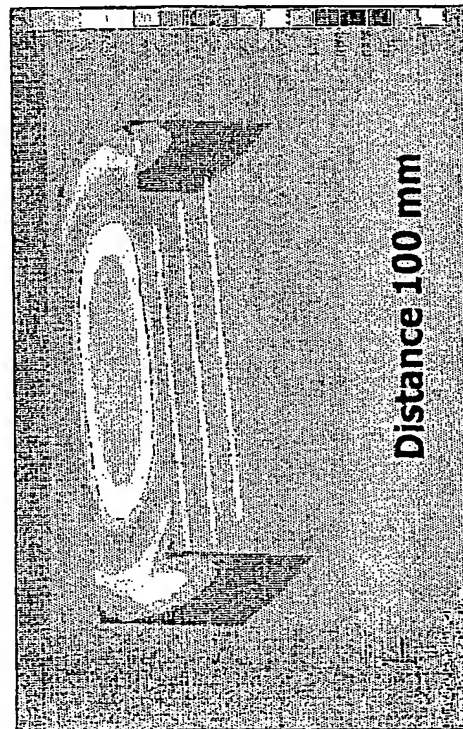
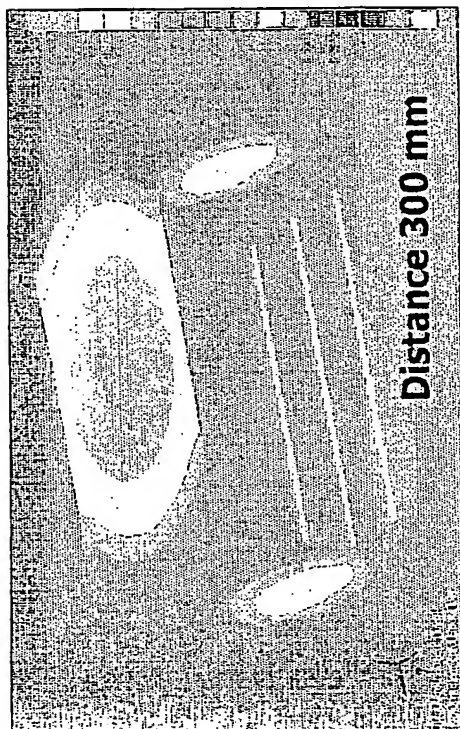
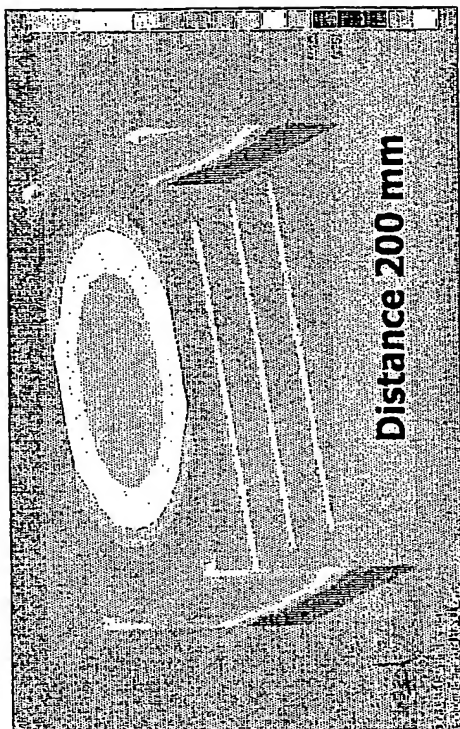
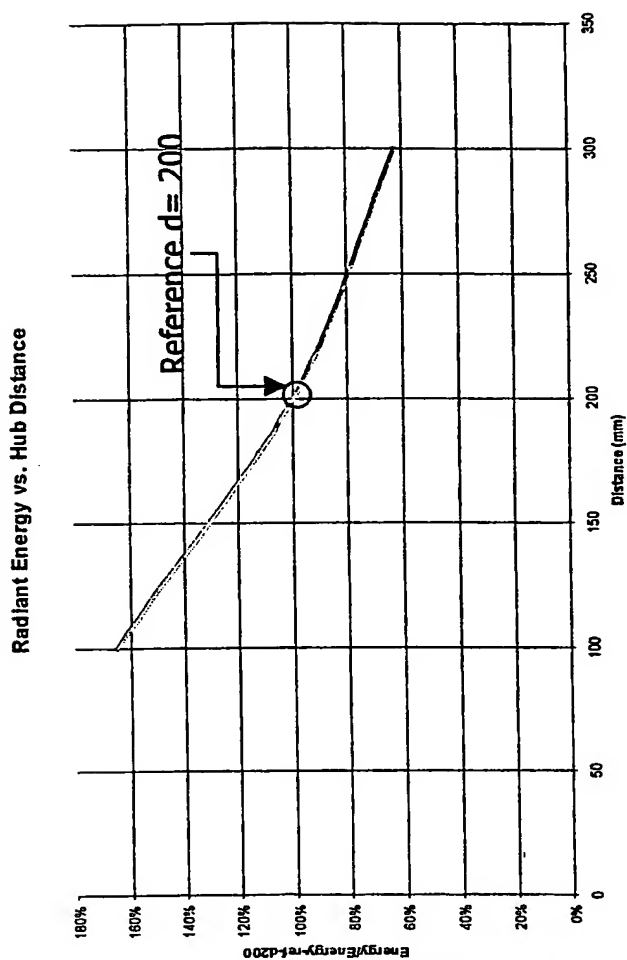


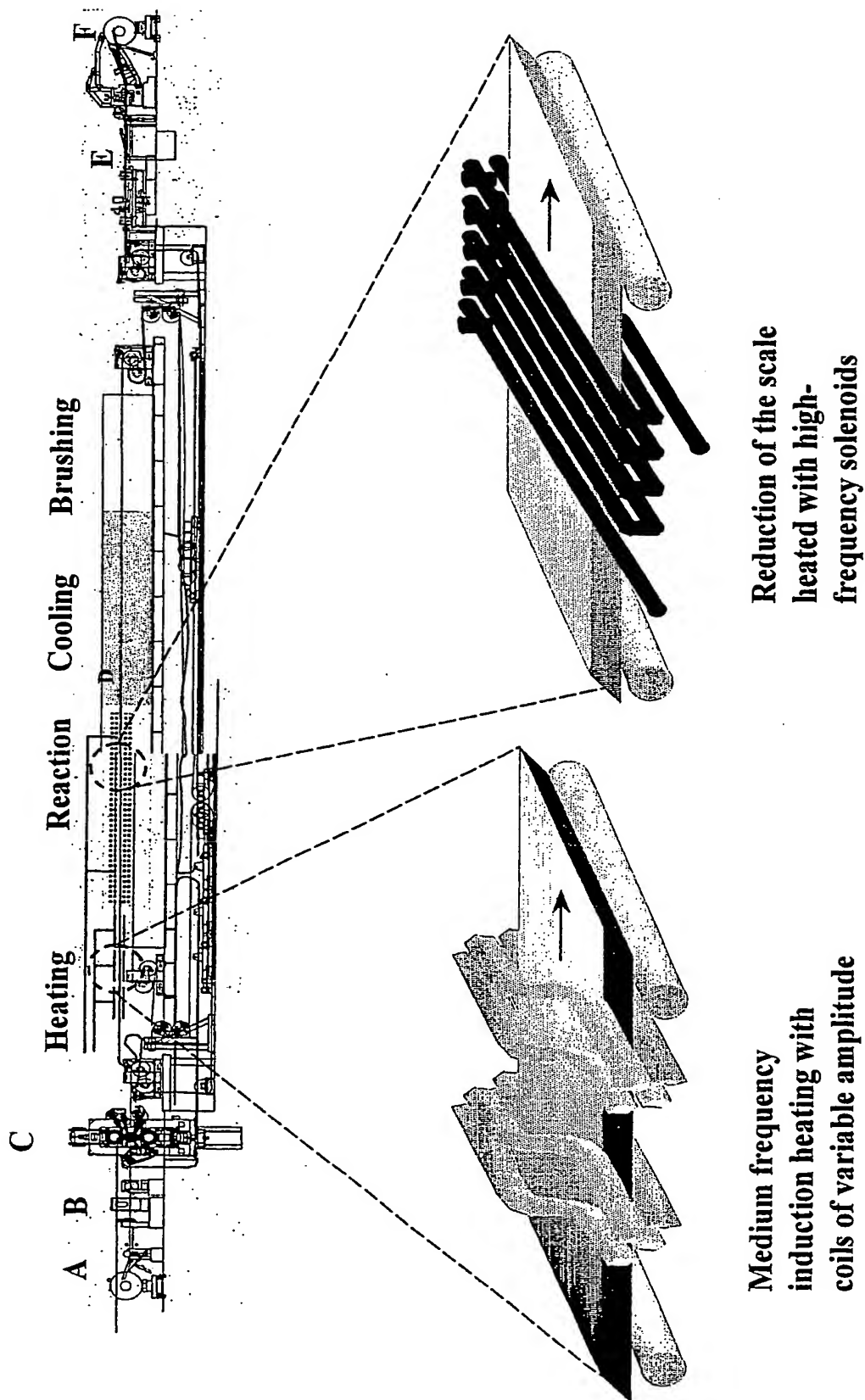
FIG. 10



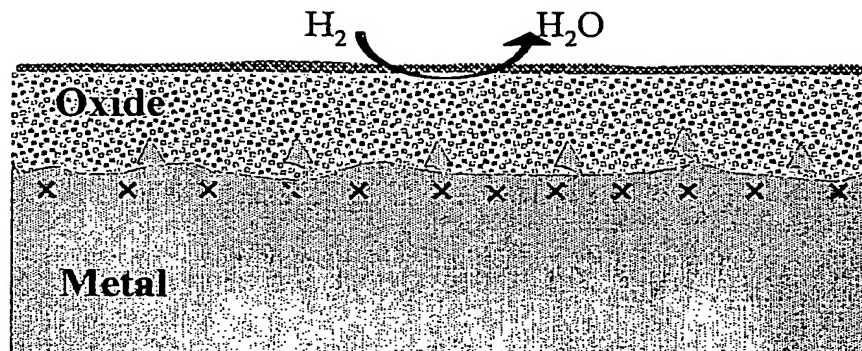


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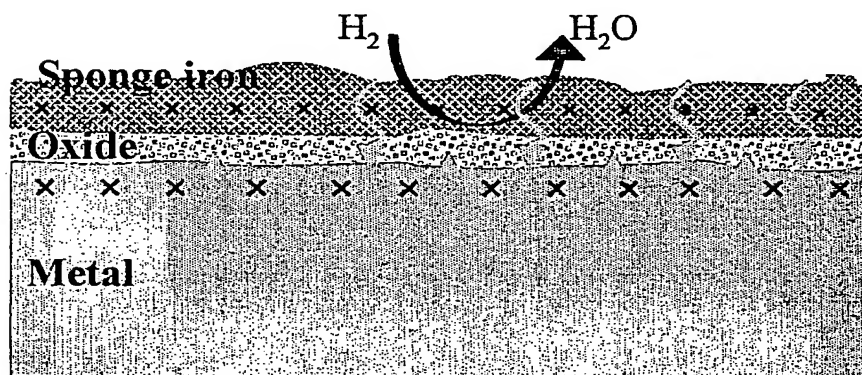
FIG. 11



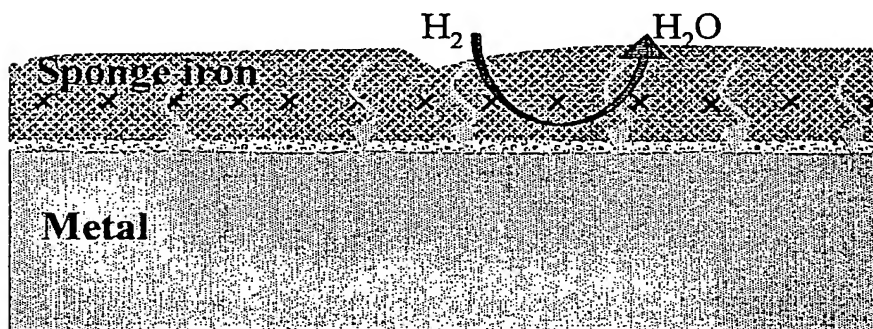
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**Fig. 12**

**STEP I : reduction of the outer oxide layer with heating from the metal**



**STEP II: reduction of the oxide with heating from the metal and from the sponge iron**



**STEP III: final reduction of the oxide with heating from the sponge iron**

 Thermal flow  
  Current lines

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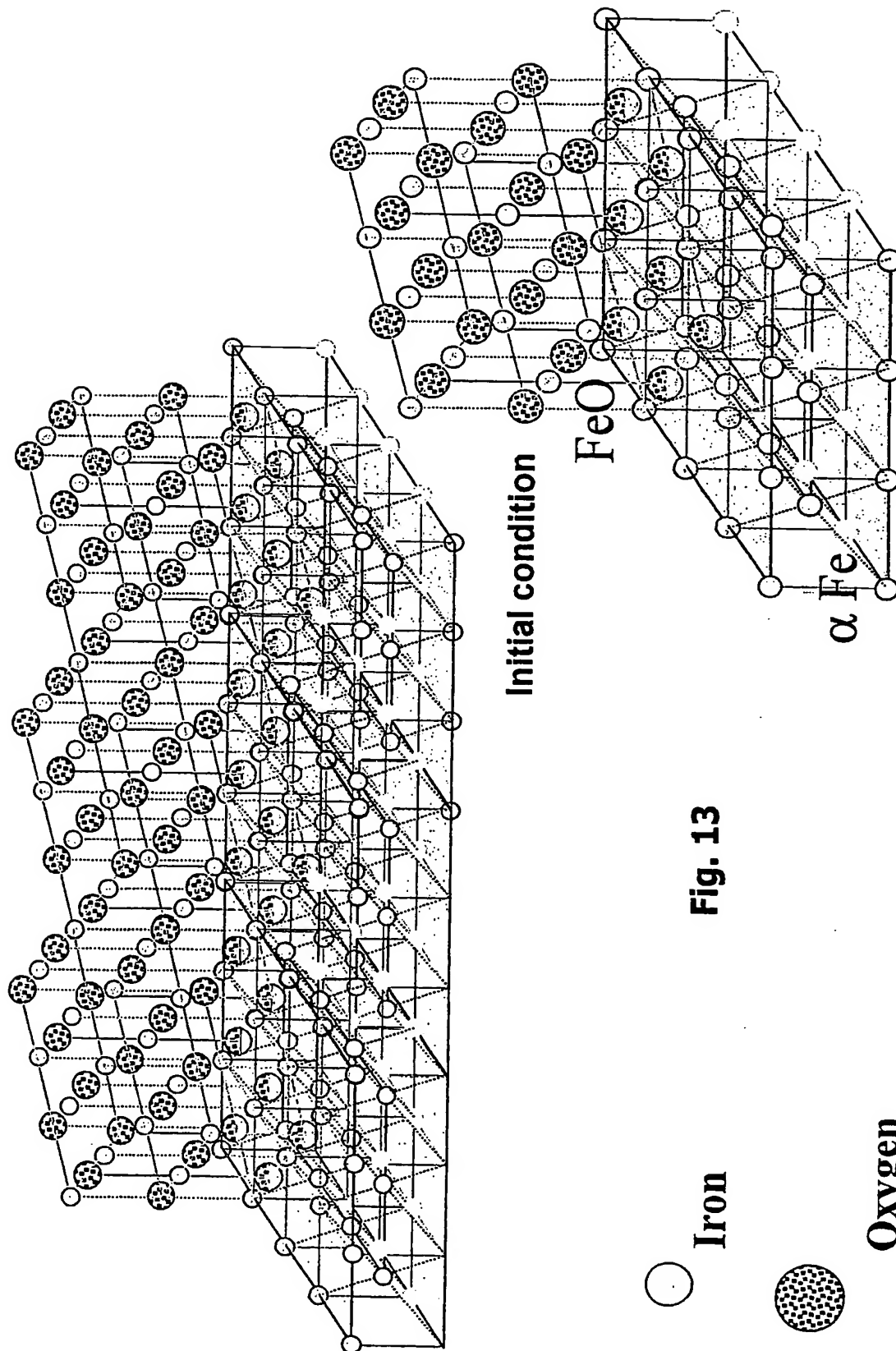


Fig. 13

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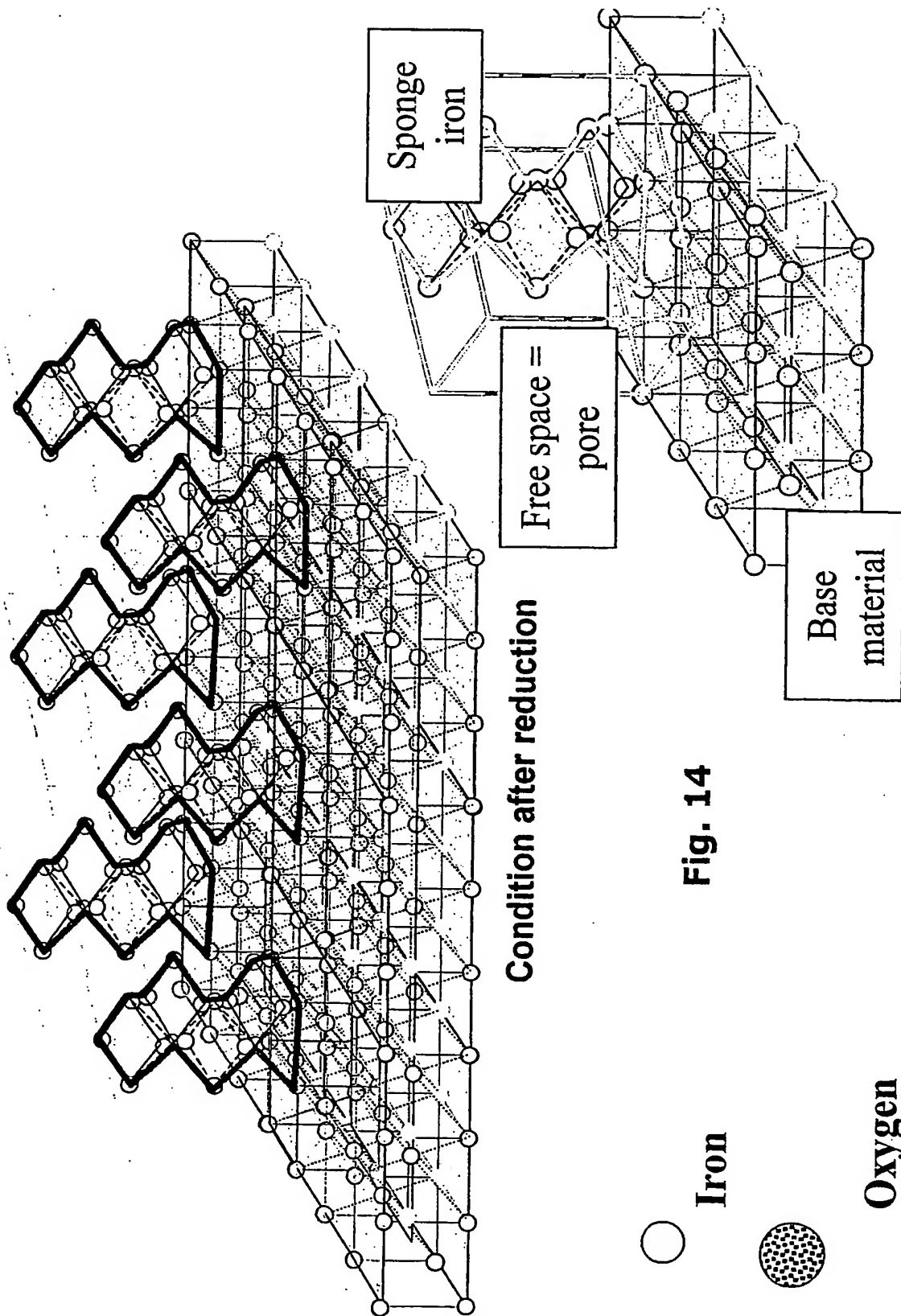


Fig. 14

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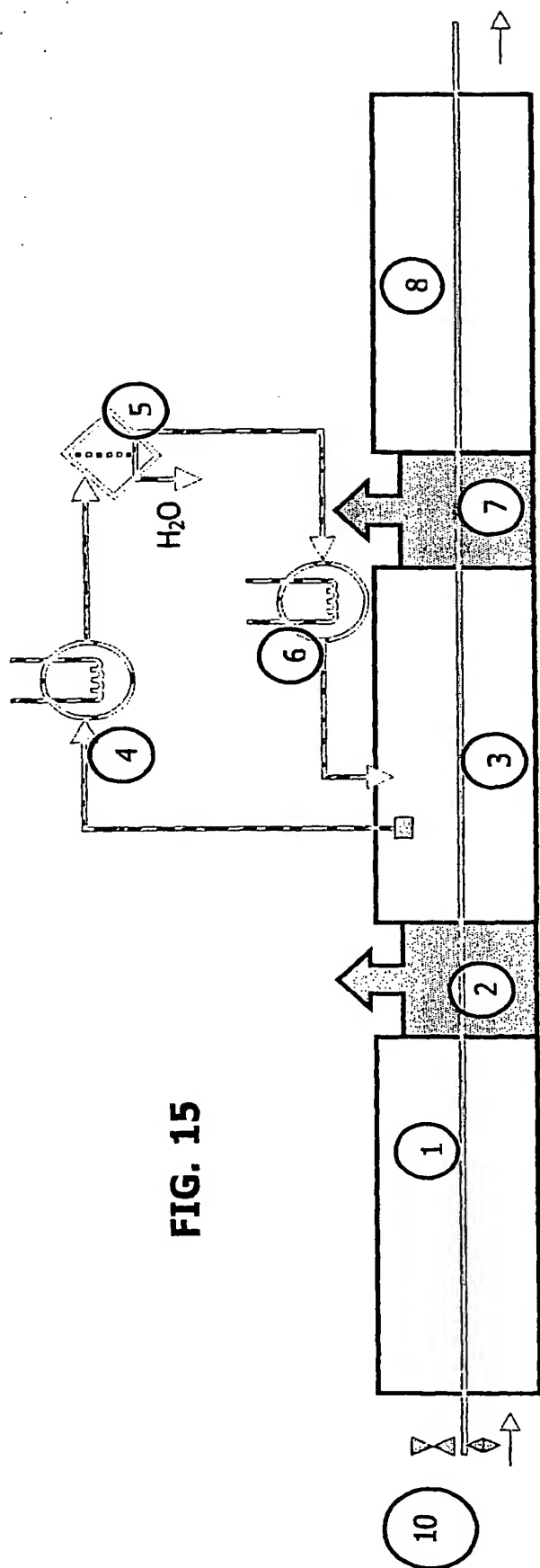


FIG. 15

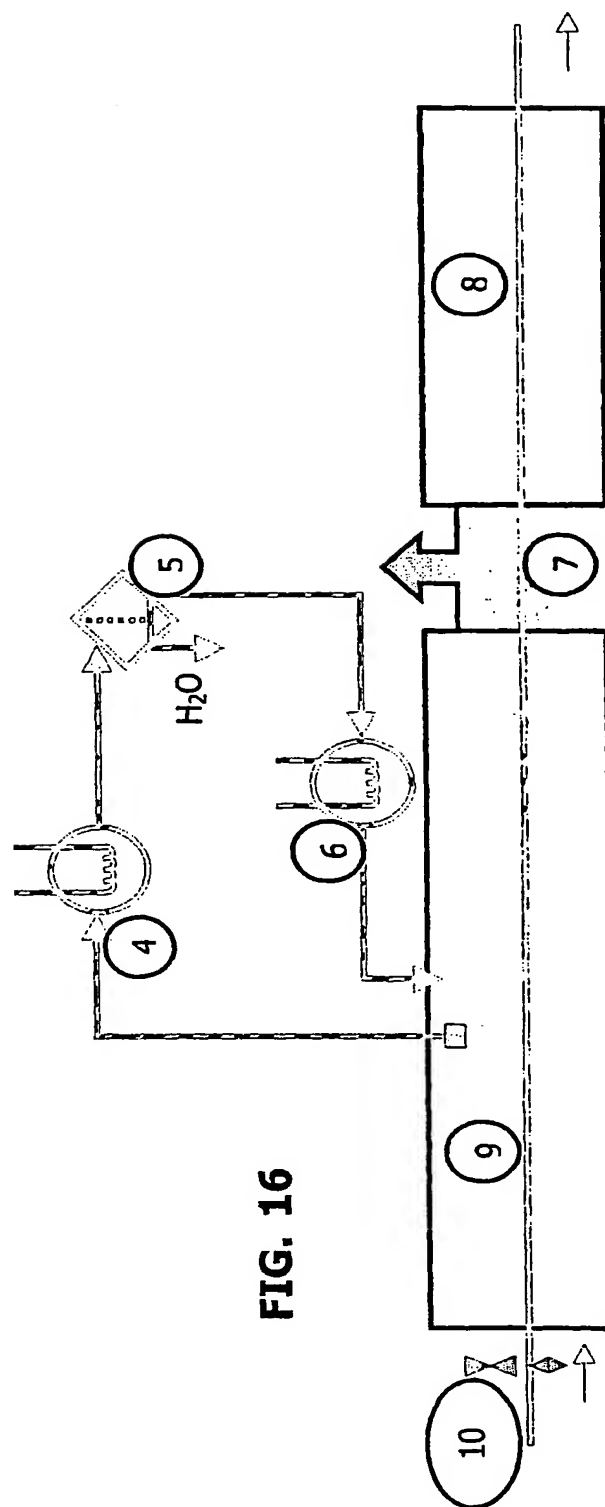
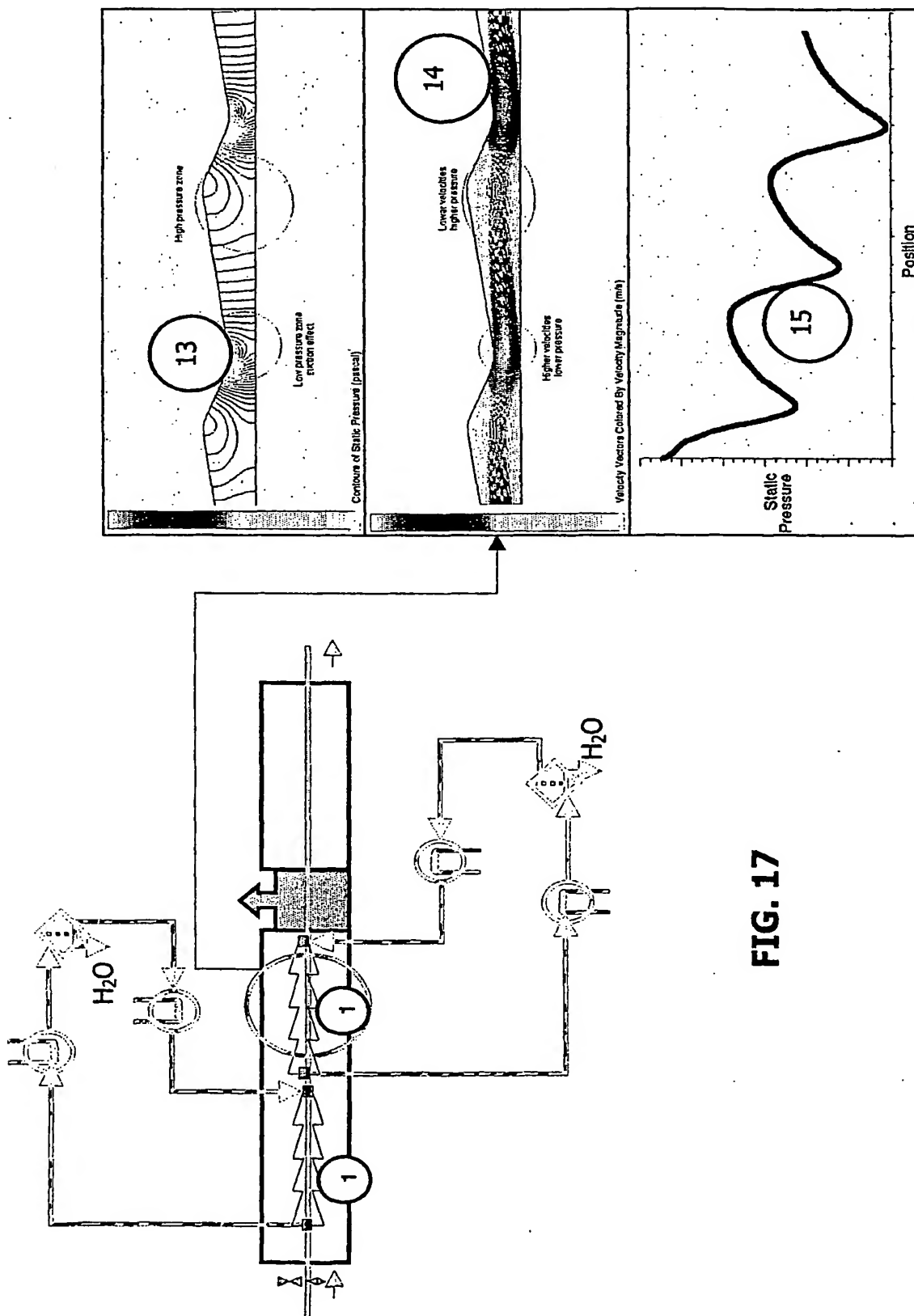


FIG. 16



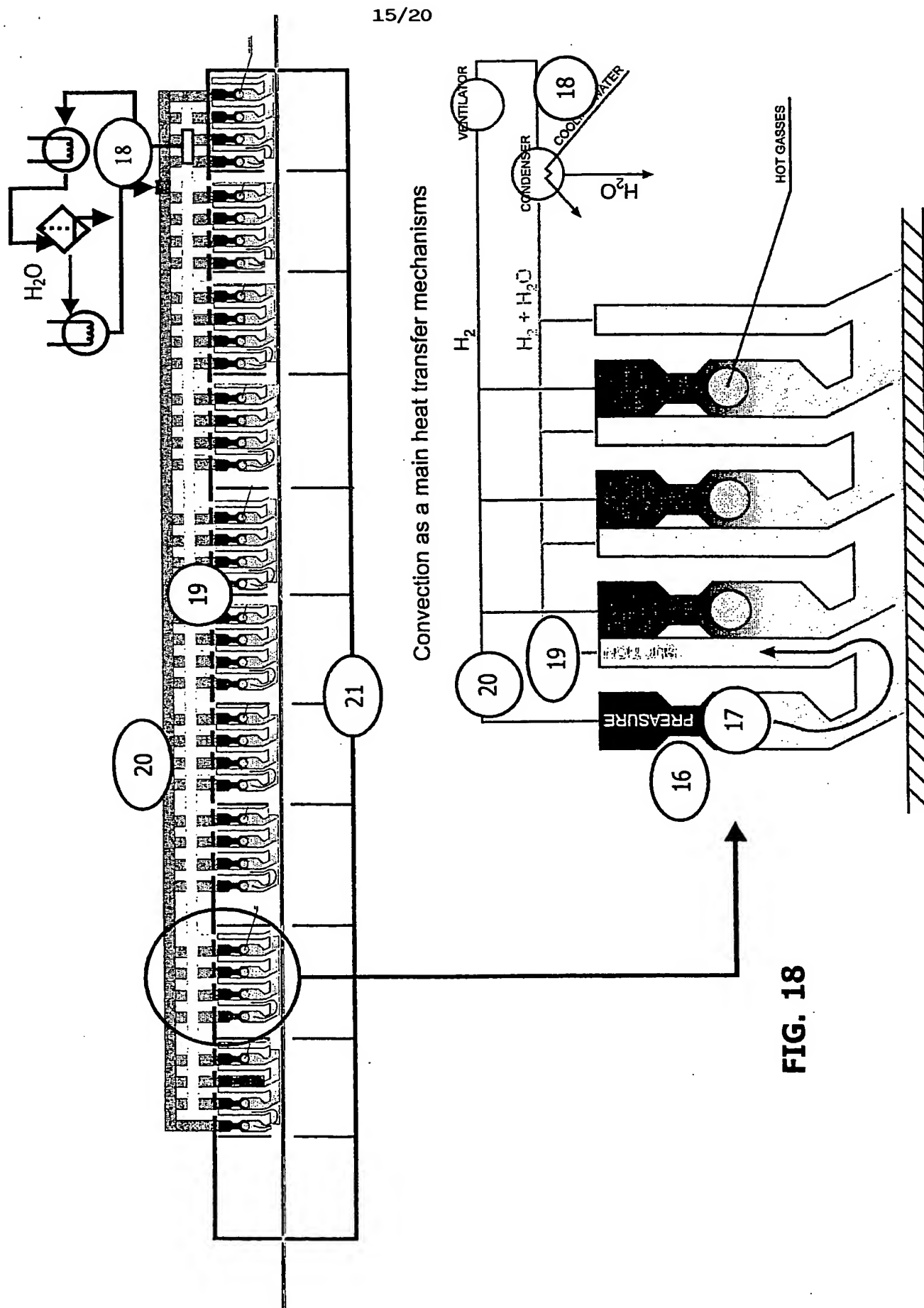


FIG. 18



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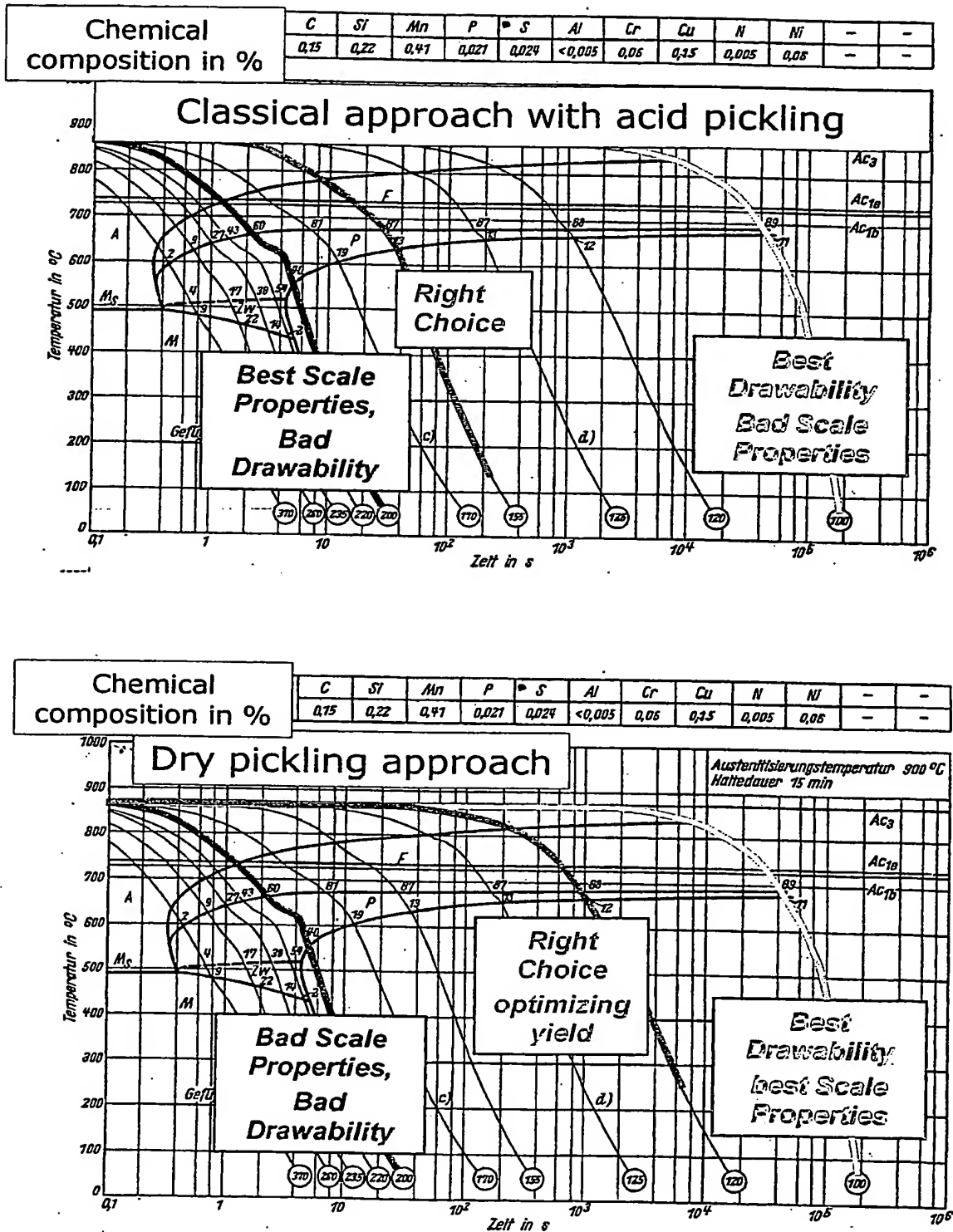
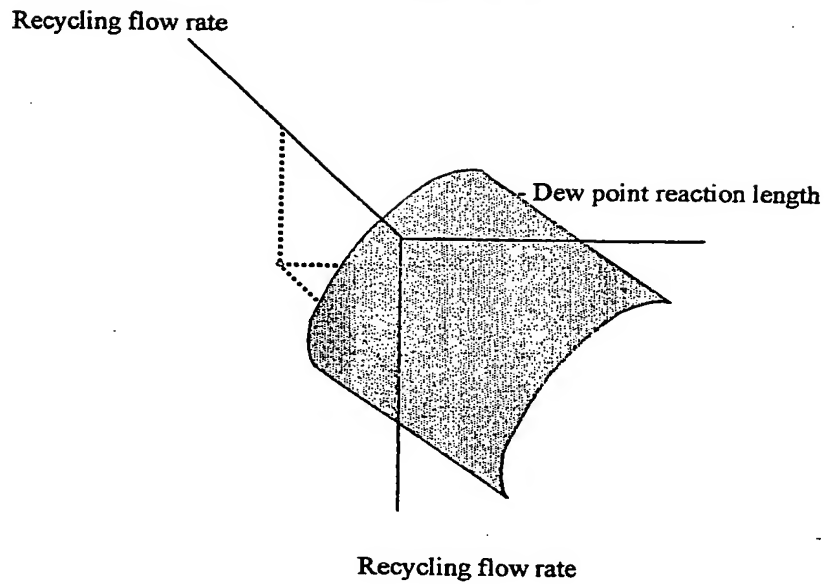


FIG. 19

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FIG. 20



Recycling flow rate with fixed dew point

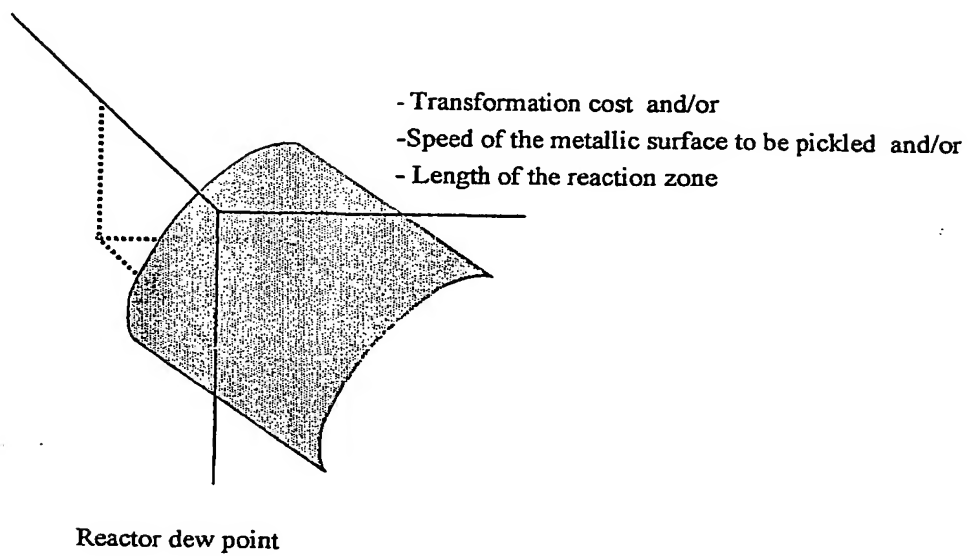
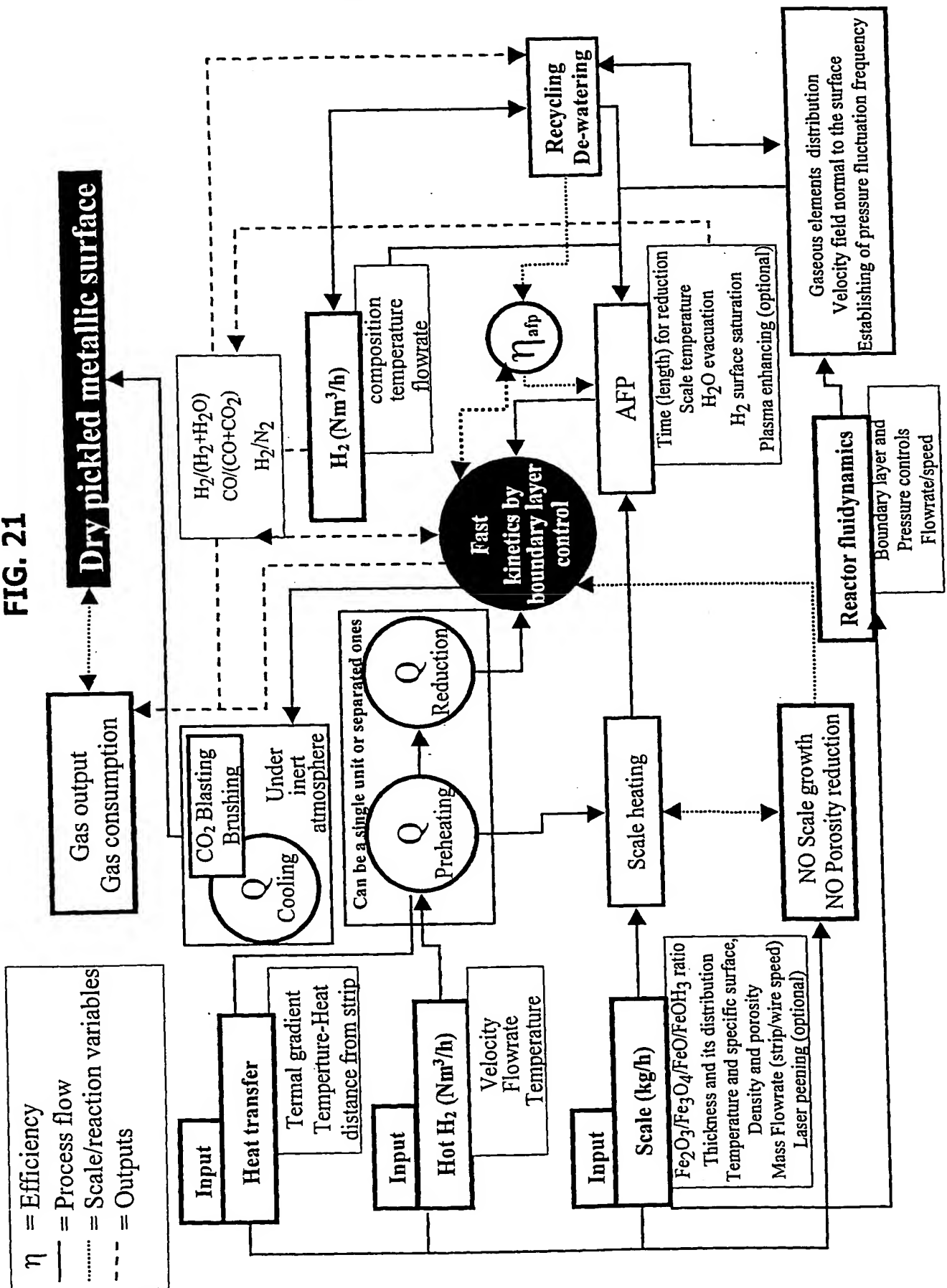


FIG. 21



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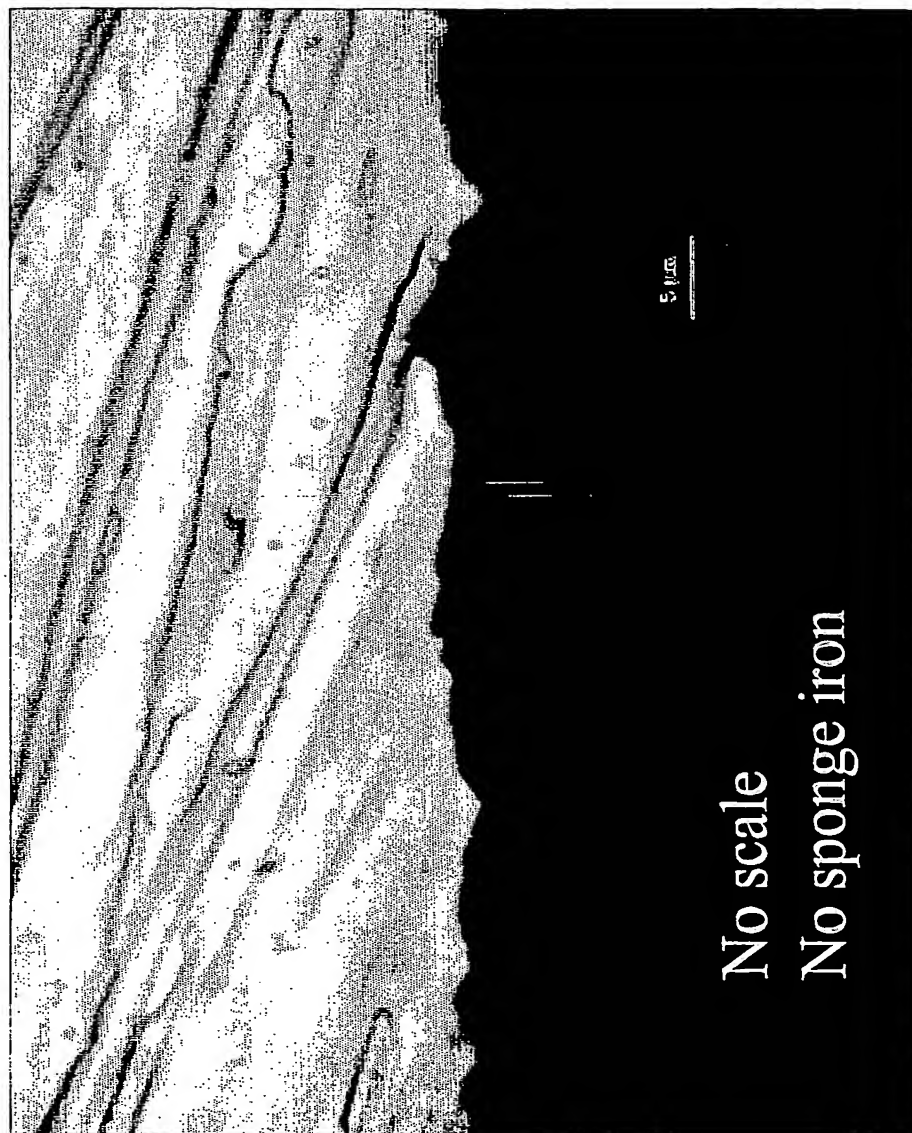


Fig. 22

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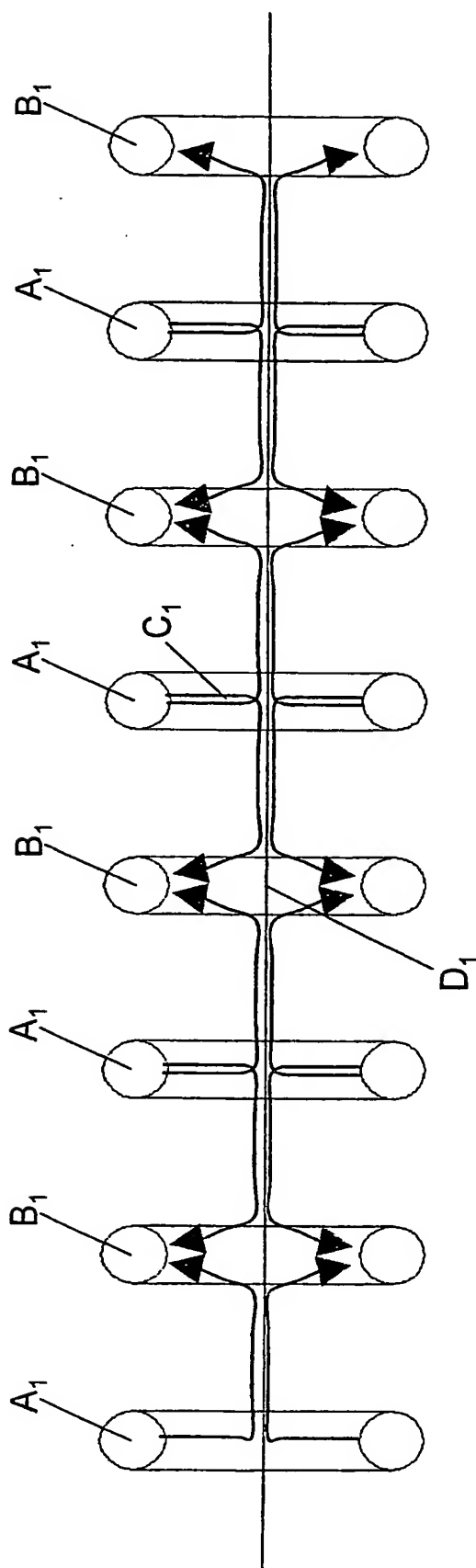


FIG. 23

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